

Fish Oils & Brain Health

SUMMARIES OF RECENT RESEARCH CONCERNING FISH OILS & MENTAL HEALTH, DEPRESSION & DEMENTIA

Your brain needs DHA

NEW YORK, NY. Dr. Barbara Levine, Professor of Nutrition in Medicine at Cornell University, sounds the alarm concerning a totally inadequate intake of DHA (docosahexaenoic acid) by most Americans. DHA is the building block of human brain tissue and is particularly abundant in the grey matter of the brain and the retina. Low levels of DHA have recently been associated with **depression, memory loss, dementia**, and visual problems. DHA is particularly important for fetuses and infants; the DHA content of the infant's brain triples during the first three months of life. Optimal levels of DHA are therefore crucial for pregnant and lactating mothers. Unfortunately, the average DHA content of breast milk in the United States is the lowest in the world, most likely because Americans eat comparatively little fish. Making matters worse is the fact that the United States is the only country in the world where infant formulas are not fortified with DHA. This despite a 1995 recommendation by the World Health Organization that all baby formulas should provide 40 mg of DHA per kilogram of infant body weight. Dr. Levine believes that postpartum depression, attention deficit hyperactivity disorder (ADHD), and low IQs are all linked to the dismally low DHA intake common in the United States. Dr. Levine also points out that low DHA levels have been linked to low brain serotonin levels which again are connected to an increased tendency to **depression, suicide, and violence**. DHA is abundant in marine phytoplankton and cold-water fish and nutritionists now recommend that people consume two to three servings of fish every week to maintain DHA levels. If this is not possible, Dr. Levine suggests supplementing with 100 mg/day of DHA.

Levine, Barbara S. Most frequently asked questions about DHA. Nutrition Today, Vol. 32, November/December 1997, pp. 248-49

Fish oil protects against Alzheimer's disease

CHICAGO, ILLINOIS. High levels of the omega-3 fatty acid docosahexaenoic acid (DHA) are found in the more active areas of the brain including the cerebral cortex, mitochondria, synaptosomes, and synaptic vesicles. At least one epidemiologic study has shown that patients with Alzheimer's disease (AD) have significantly lower levels of omega-3 fatty acids in their plasma phospholipids than do age-matched controls. Researchers at the Rush-Presbyterian-St. Luke's Medical Center now report that older people can reduce their risk of developing AD by increasing their intake of fish and fish oil (DHA). Their study included 815 men and women over the age of 65 years who had showed no sign of AD during a thorough baseline examination. About 2 years after the examination all participants completed a 154-item food frequency questionnaire and provided information about their current use of supplements. After another 2 years all participants were again subjected to a thorough,

structured neurologic clinical evaluation to establish the presence or absence of AD. A total of 131 study participants were found to have developed AD over the 3.9-year follow-up period.

The researchers found that participants who consumed fish just once a week had a 60% lower risk of developing AD than did those who rarely or never ate fish. They also observed that participants whose daily intake of DHA was about 100 mg/day had an incidence of AD which was 70% lower than those with an intake of 30 mg/day or less.

Eicosapentaenoic acid (EPA), another component of fish oil, showed no appreciable effect; however, the maximum intake was only 30 mg/day. A high total intake of omega-3 fatty acids was also strongly correlated with a reduced risk for AD. Participants with an intake of 1.6 - 4.1 grams/day had a 70% lower risk than those with an intake below 1.05 grams/day. Alpha-linolenic acid (flaxseed oil) intake was not associated with AD risk except in the case of people with the APOE-epsilon 4 allele where a high intake was strongly protective. The researchers conclude that an increased intake of fish or omega-3 fatty acids, especially DHA, can substantially reduce the risk of developing Alzheimer's disease.

Morris, MC, et al. Consumption of fish and n-3 fatty acids and risk of incident of Alzheimer's disease. Archives of Neurology, Vol. 60, July 2003, pp. 940-46

Priedland, RP. Fish consumption and the risk of Alzheimer disease. Archives of Neurology, Vol. 60, July 2003, pp. 940-46

Editor's Comment: High doses of fish oils should always be accompanied by vitamins E and C in order to prevent oxidation of the oil.